MDI

Solid State Relays

MDI Inc.
P.O. Box 710
25028 US 12 East
Edwardsburg, MI 49112

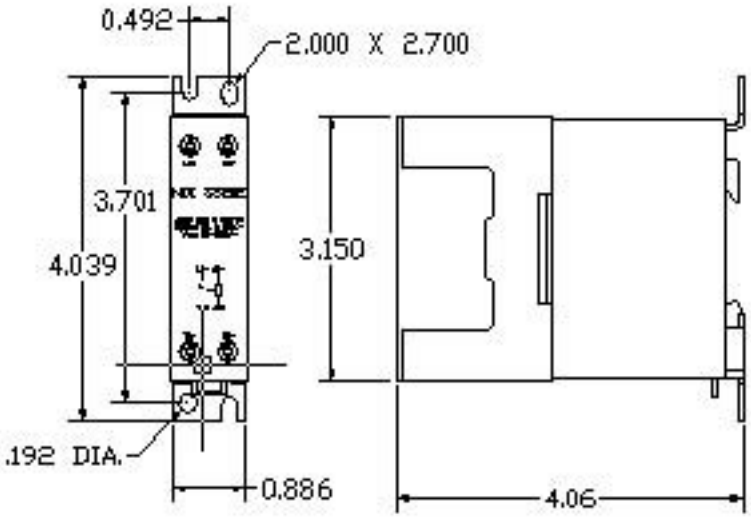
PH: 800-634-4077
Fax: 269-663-2924

http://www.mdius.com

Solid State Relays
With Integrated Heatsink
20 & 30 AMP series

* AC Semiconductor contactor
* Zero switching
* Direct-Copper bonding (DCB) technology
* LED indication
* Cage clamp terminals
* 2 input ranges: 4-32 VDC and 24-275 VAC/24-48VDC
* Operational ratings up to 30 AACrms and 600 VAC
* Non-repetitive voltgage: up to 1200 Vp
* Opto isolation > 4000 VACrms
* Operating temperature -30° to +80° C
* Junction temperature 125° C

Product Description



MDI Solid State Relays are advantageous in industrial heating applications requiring high cycle rates. These relays have integral heat sinks and are ready to mount on chassis or DIN-rail.
The standard housing dimensions enable straightforward replacement of alternative products and allow for two standard terminal configurations. Cage clamp terminals are used to ensure secure load connection with cable up to 10 AWG.
An LED indicates the status of the control input.
The superior heat-transfer efficiency combined with a robust power management system makes this a high reliability product that can meet the most stringent functional requirements.

Selection Guide

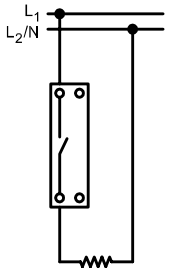
MODEL	Control voltage	Rated current
SS20AE	24-275 VAC 24-48 VDC	**20 AMP**
SS20AU	24-275 VAC 24-48 VDC	**20 AMP**
SS20DE	4-32 VDC	**20 AMP**
SS20DU	4-32 VDC	**20 AMP**
SS30AU	24-275 VAC 24-48 VDC	**30 AMP**
SS30DU	4-32 VDC	**30 AMP**

Output Specifications	**20 AMP**	**30 AMP**
Rated operational current		
AC51 @TA=25° C	20 AACrms	30 AACrms
AC53a @Ta=25° C	5 AACrms	15 AACrms
Min. operational current	350 mAACrms	150mAACrms
Rep. overload current t - 1s	< 35 AACrms	< 125 AACrms
Non rep. surge current Tj(init.) =25° C and t = 10 ms	250Ap	400 Ap
Off-state leakage current @ rated voltage and frequency	< 3 mArms	< 3 mArms
I^2t for fusing t = 10 ms	310 A^2s	1800 A^2s
Critical dI/dt	≥ 10 A/µs	≥ 100 A/µs
On-state volt drop @ rated Amps.	1.6 Vrms	1.6 Vrms
Critical dv/dt commutating	500 V/µs	500 V/µs
Critical dv/dt off-state	500 V/µs	500 V/µs

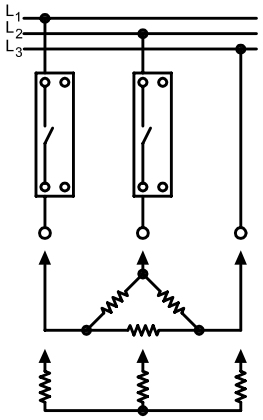
Applications

SS20AE SS20AU SS30AU
SS20DE SS2ODU SS30DU

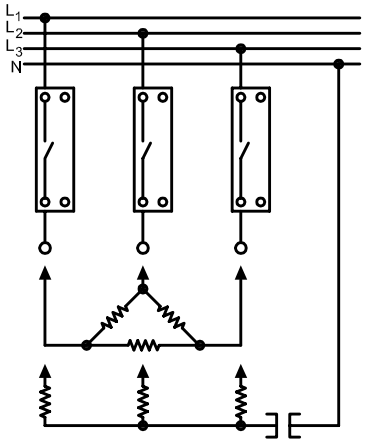
Single pole relay application
Line-Neutral, Line-Line



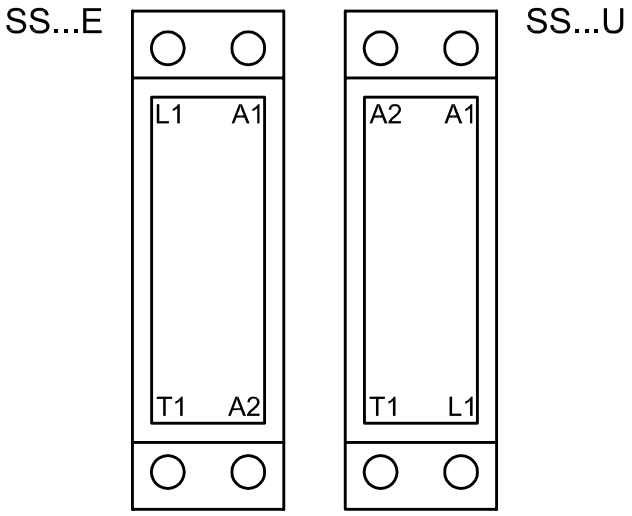
2 single pole relays in 3-phase application
Delta and star connection (economy switch)



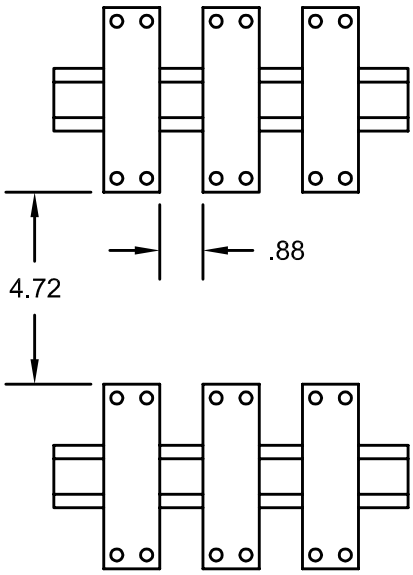
3 single pole relays in 3-phase application
Delta, Star, Star with neutral



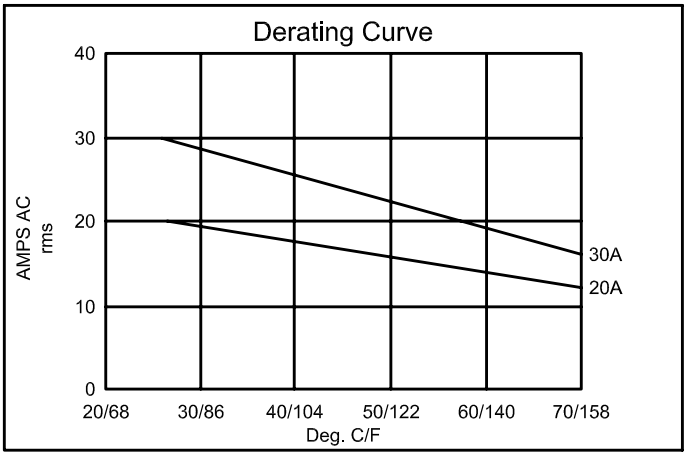
Terminal Layout



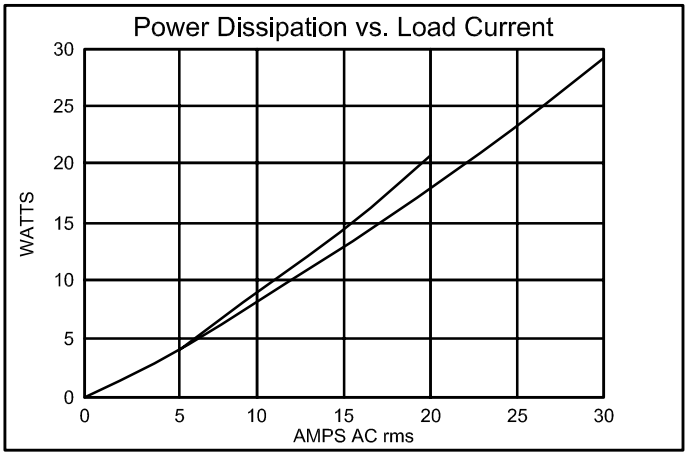
Panel Mounting



Derating Curve



Dissipation Curve

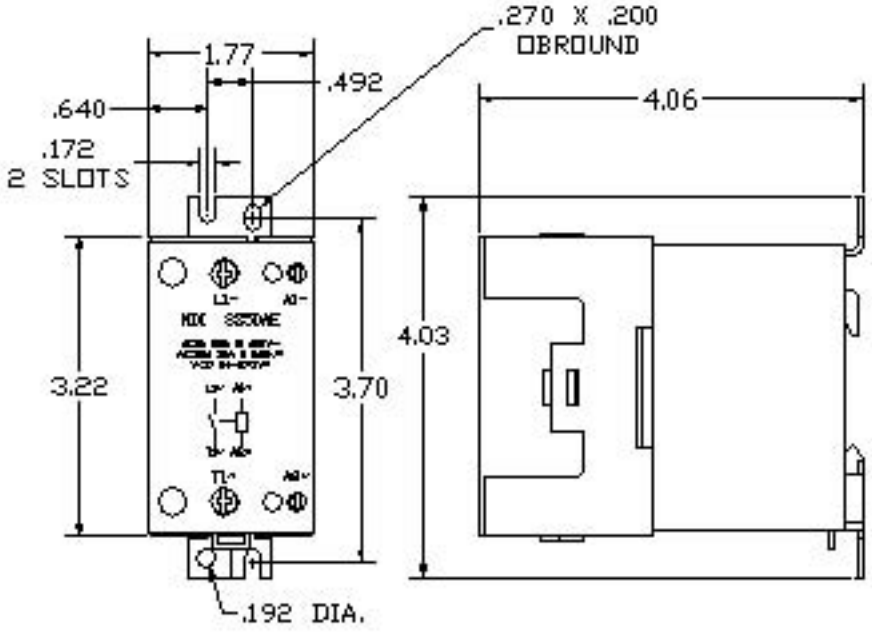


Solid State Relays
With Integrated Heatsink

50 AMP series

* AC Semiconductor contactor
* Zero switching
* Direct-Copper bonding (DCB) technology
* LED indication
* Cage clamp terminals
* 2 input ranges: 4-32 VDC and 24-275 VAC/24-48VDC
* Operational ratings up to 50 AACrms and 600 VAC
* Non-repetitive voltgage: up to 1200 Vp
* Opto isolation > 4000 VACrms
* Operating temperature -30° to +80° C
* Junction temperature 120° C

Product Description



MDI Solid State Relays are advantageous in industrial heating applications requiring high cycle rates. These relays have integral heat sinks and are ready to mount on chassis or DIN-rail.
The standard housing dimensions enable straightforward replacement of alternative products and allow for two standard terminal configurations. Cage clamp terminals are used to ensure secure load connection with cable up to 3 AWG or 2 wires at 6 AWG.
An LED indicates the status of the control input. The superior heat-transfer efficiency combined with a robust power management system makes this a high reliability product that can meet the most stringent functional requirements.

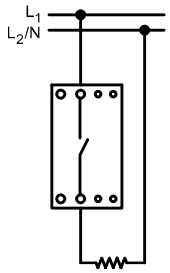
Selection Guide

MODEL	Control voltage	Rated current
SS50AE	24-275 VAC 24-48 VDC	**50 AMP**
SS50AU	24-275 VAC 24-48 VDC	**50 AMP**
SS50DE	4-32 VDC	**50 AMP**
SS50DU	4-32 VDC	**50 AMP**

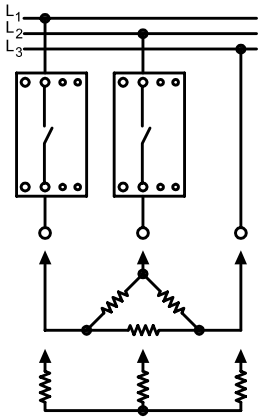
Output Specifications	**50 AMP**
Rated operational current	
AC51 @TA=25° C	50 AACrms
AC53a @Ta=25° C	30 AACrms
Min. operational current	150 mAACrms
Rep. overload current t - 1s	< 200 AACrms
Non rep. surge current Tj(init.) =25° C and t = 10 ms	1900 Ap
Off-state leakage current @ rated voltage and frequency	< 3 mArms
I^2t for fusing t = 10 ms	18000 A^2s
Critical dI/dt	≥ 150 A/µs
On-state volt drop @ rated Amps.	1.6 Vrms
Critical dv/dt commutating	500 V/µs
Critical dv/dt off-state	500 V/µs

Applications

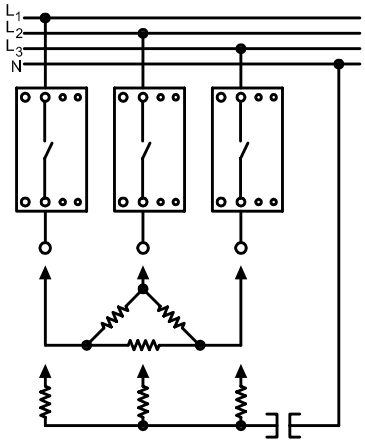
Single pole relay application
Line-Neutral, Line-Line



2 single pole relays in 3-phase application
Delta and star connection (economy switch)

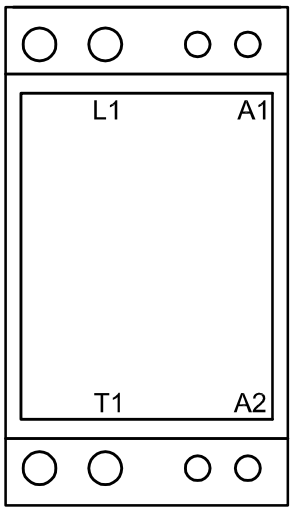


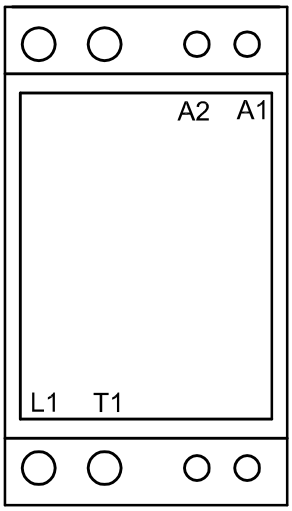
3 single pole relays in 3-phase application
Delta, Star, Star with neutral



Terminal Layout

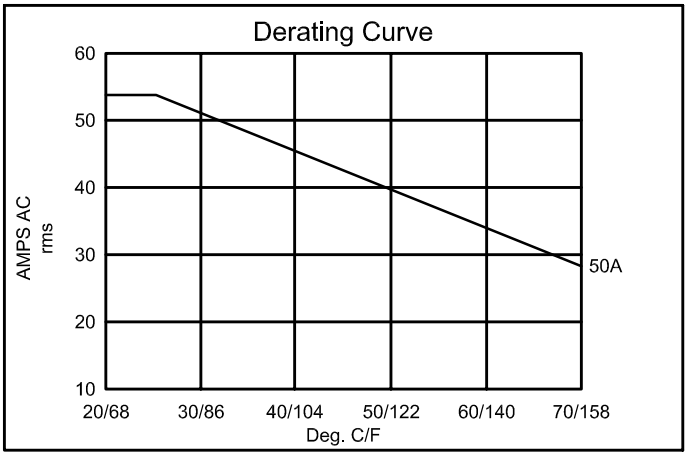
SS50.E



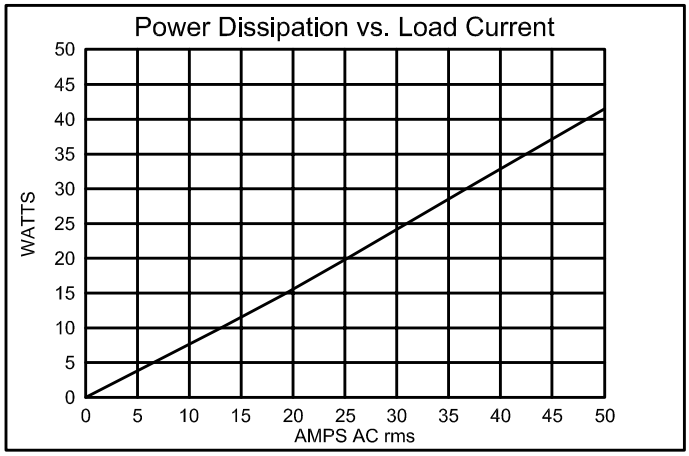


SS50.U

Derating Curve



Dissipation Curve

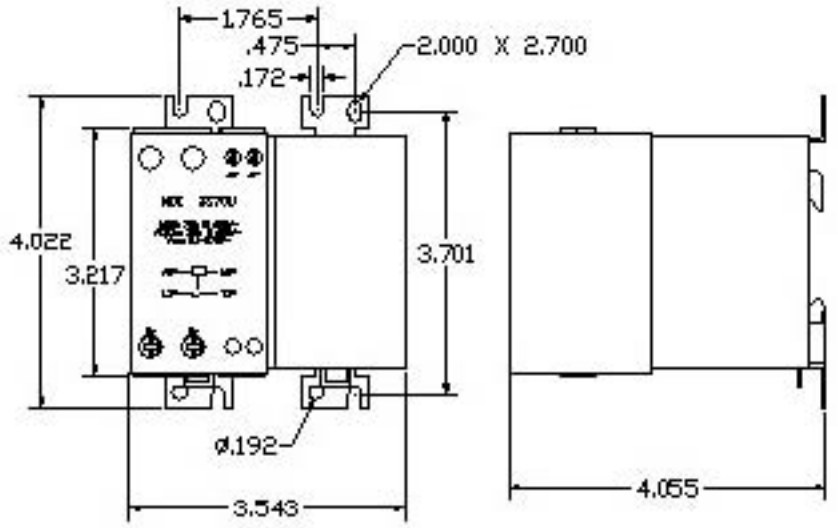


Solid State Relays
With Integrated Heatsink

70 AMP series

* AC Semiconductor contactor
* Zero switching
* Direct-Copper bonding (DCB) technology
* LED indication
* Cage clamp terminals
* 2 input ranges: 4-32 VDC and 24-275 VAC/24-48VDC
* Operational ratings up to 70 AACrms and 600 VAC
* Non-repetitive voltgage: up to 1200 Vp
* Opto isolation > 4000 VACrms
* Operation temperature -30° to +80° C
* Junction temperature 125° C

Product Description



MDI Solid State Relays are advantageous in industrial heating applications requiring high cycle rates. These relays have integral heat sinks and are ready to mount on chassis or DIN-rail.
The standard housing dimensions enable straightforward replacement of alternative products and allow for two standard terminal configurations. Cage clamp terminals are used to ensure secure load connection with cable up to 3 AWG or 2 wires at 6 AWG. An LED indicates the status of the control input.
The superior heat-transfer efficiency combined with a robust power management system makes this a high reliability product that can meet the most stringent functional requirements.

Selection Guide

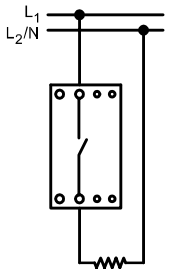
MODEL	Control voltage	Rated current
SS70AU	24-275 VAC 24-48 VDC	**70 AMP**
SS70DU	4-32 VDC	**70 AMP**

Output Specifications	**70 AMP**
Rated operational current	
AC51 @TA=25° C	70 AACrms
AC53a @Ta=25° C	30 AACrms
Min. operational current	150 mAACrms
Rep. overload current t - 1s	< 200 AACrms
Non rep. surge current Tj(init.) =25° C and t = 10 ms	1900 Ap
Off-state leakage current @ rated voltage and frequency	< 3 mArms
I^2t for fusing t = 10 ms	18000 A^2s
Critical dI/dt	≥ 150 A/µs
On-state volt drop @ rated Amps.	1.6 Vrms
Critical dv/dt commutating	500 V/µs
Critical dv/dt off-state	500 V/µs

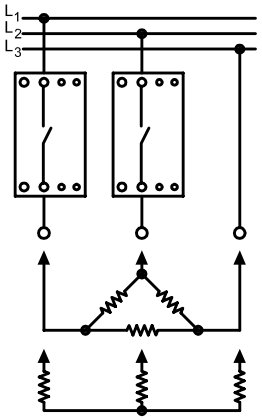
Applications

SS70AU SS7ODU

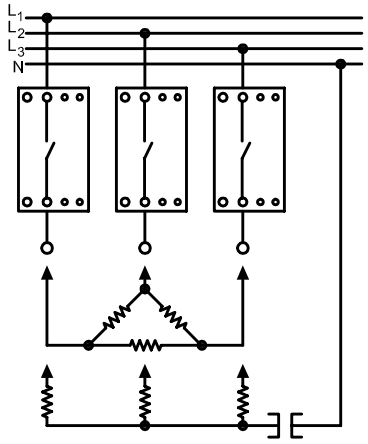
Single pole relay application
Line-Neutral, Line-Line



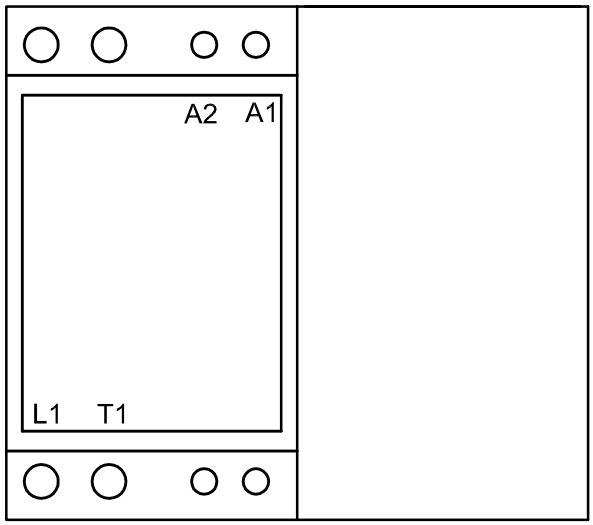
2 single pole relays in 3-phase application
Delta and star connection (economy switch)



3 single pole relays in 3-phase application
Delta, Star, Star with neutral

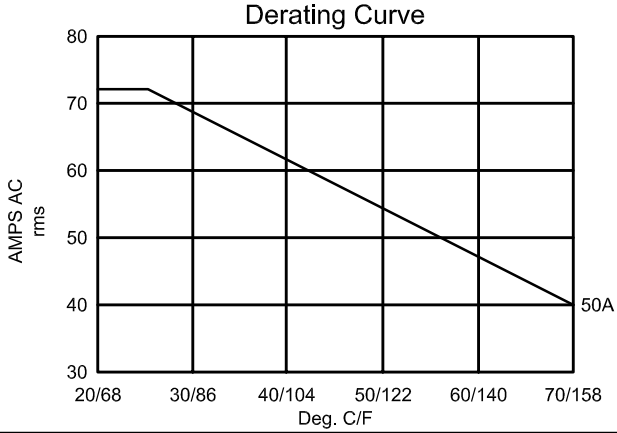


Terminal Layout



SS70.U

Derating Curve



Dissipation Curve